

a controller coupled to the CDMA receiver for responding to signals received via the CDMA receiver and coupled for controlling the CDMA transmitter, such that in operation the CDMA base station is for performing the following steps:

receiving from a remote station an access burst comprising a sequence of coded preamble signals at sequentially increasing discrete power levels;

detecting a first one of the coded preamble signals of the sequence that is received at an adequate power level;

upon detection of the first coded preamble signal at the adequate power level, transmitting an acknowledgement signal;

receiving from the remote station a remote station collision detection preamble;

transmitting to the remote station a base station collision detection preamble corresponding to the received remote station collision detection preamble;

receiving any of data and control information over the common packet channel from the remote station; and

transmitting any of data and control information to the remote station.

6. A code-division-multiple-access (CDMA) wireless remote station, comprising:

a CDMA transmitter;

a CDMA receiver; and

a controller coupled to the CDMA receiver for responding to signals received via the CDMA receiver and coupled for controlling the CDMA transmitter, such that in operation the CDMA remote station is for performing the following steps:

transmitting over a common packet channel a plurality of coded preamble signals at sequentially increasing discrete power levels to the base station;

receiving an acknowledgement signal from the base station following transmission of one or more of the coded preamble signals;

transmitting a collision detection preamble to the base station in response to receipt of the acknowledgement signal;

receiving a base station collision detection preamble from the base station, the base station collision detection preamble corresponding to the

transmitted collision detection preamble;

transmitting any of data and control information over the common packet channel to the base station; and

receiving over the common synchronization channel any of data and control information from the base station.

1. A base band processor for use in a code-division-multiple-access (CDMA) wireless base station, comprising:

a preamble processor, for detecting a preamble in received spread-spectrum signals;

a data and control processor, for detecting and processing data and control information contained in the received spread-spectrum signals;

an encoder, for encoding data;

an interleaver, coupled to the encoder, for interleaving encoded data;

a packet formatter, coupled to the interleaver, for formatting any of the interleaved encoded data, signaling, acknowledgment signal, collision detection signal, pilot signal and transmission power control (TPC) signal into a packet; and

a controller coupled to the preamble processor, the data and control processor and to the packet formatter for controlling the preamble processor, the data and control processor and the packet formatter, such that in operation the base band processor is for performing the following steps:

detecting a first one of a sequence of coded preamble signals of the sequence that is embedded in a first spread-spectrum signal received at an adequate power level;

upon detection of the first coded preamble signal at the adequate power level, generating a packet comprising an acknowledgement signal and outputting the packet comprising the acknowledgement signal to a modulator of the wireless base station;

detecting a collision detection preamble in a second spread-spectrum signal received at the wireless base station;

generating a packet comprising a base station collision detection preamble corresponding to the received collision detection preamble and outputting the packet comprising the base station collision detection preamble to

the modulator of the wireless base station; and

generating a packet comprising any of data and control information and

outputting the packet to the modulator of the wireless base station.

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8. The base band processor as set forth in claim 3, further comprising a programmable-matched filter for despreading the received spread-spectrum signals.

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9. The base band processor as set forth in claim 3, further comprising a correlator for despreading the received spread-spectrum signals.

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10. The base band processor as set forth in claim 3, further comprising:
an analog-to-digital converter for converting the received spread-spectrum signals from an antenna to a digital signal; and

means responsive to the digital signal from the analog-to-digital converter for despreading the received spread-spectrum signals.

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11. The base band processor as set forth in claim 10, further comprising:
means for processing the packets for spreading thereof; and
a digital-to-analog converter, coupled to the means for processing, for producing a modulated spread spectrum signal for transmission from the base station, wherein the means for processing and the digital-to-analog converter form at least a portion of the modulator of the wireless base station.

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12. The base band processor as set forth in claim 7, further comprising:
means for processing the packets for spreading thereof; and
a digital-to-analog converter, coupled to the means for processing, for producing a modulated spread spectrum signal for transmission from the base station, wherein the means for processing and the digital-to-analog converter form at least a portion of the modulator of the wireless base station.

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13. The base band processor as set forth in claim 7, further comprising a variable gain device, coupled to the packet formatter, for adjusting the level of the packets from the packet

formatter before application thereof to the modulator of the wireless base station.

14. A base band processor for use in a code-division-multiple-access (CDMA) wireless remote station, comprising:

an acknowledgment detector for detecting an acknowledgment in received spread-spectrum signals;

a data and control processor, for detecting and processing data and control information contained in the received spread-spectrum signals;

a encoder, for encoding data;

an interleaver, coupled to the encoder, for interleaving encoded data;

a preamble generator for generating coded preamble signals;

a multiplexer, coupled to the interleaver and to the preamble generator, for multiplexing the interleaved data and the coded preamble signals;

a packet formatter, coupled to the multiplexer, for formatting the multiplexed data and the coded preamble signals into packets; and

a controller coupled to the acknowledgment detector and to the packet formatter for controlling the modulator, the acknowledgment detector, the preamble generator, the multiplexer and the packet formatter, such that in operation the base band processor is for performing the following steps:

generating and outputting a plurality of packets comprising a sequence of coded preamble signals at sequentially increasing discrete power levels;

detecting an acknowledgement in a first received spread-spectrum signal;

upon detection of the acknowledgement, generating and outputting a packet comprising a collision detection preamble;

detecting in a second received spread-spectrum signal a base station collision detection preamble corresponding to the outputted collision detection preamble;

generating and outputting a packet comprising data and control information; and

processing any of data and control information in a third received spread-spectrum signal.

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15. The base band processor as set forth in claim 14, further comprising a programmable-matched filter for despreading the received spread-spectrum signals.

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16. The base band processor as set forth in claim 14, further comprising a correlator for despreading the received spread-spectrum signals.

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17. The base band processor as set forth in claim 14, further comprising
an analog-to-digital converter for converting the received spread-spectrum signals from an antenna to a digital signal; and

means responsive to the digital signal from the analog-to-digital converter for despreading the received spread-spectrum signals.

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18. The base band processor as set forth in claim 17, further comprising
means for processing the packets for spreading thereof; and
a digital-to-analog converter, coupled to the means for processing, for producing a modulated spread spectrum signal for transmission from the wireless remote station.

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19. The base band processor as set forth in claim 14, further comprising
means for processing the packets for spreading thereof; and
a digital-to-analog converter, coupled to the means for processing, for producing a modulated spread spectrum signal for transmission from the wireless remote station.

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20. The base band processor as set forth in claim 14, further comprising a variable gain device, coupled to the packet formatter, for adjusting the level of the packets from the packet formatter.--

REMARKS

The above amendment includes a number of editorial changes to the specification, similar to changes made in the allowed parent application. Applicants also have amended the claims to provide an appropriate set of claims for examination herein, and to insure adequate coverage of the inventive subject matter for this case. Upon entry of the amendments, claims 5-20 should be pending for examination in the form as shown above. Applicants solicit a prompt favorable